

PATENT APPLN. NO. 10/522,771
RESPONSE UNDER 37 C.F.R. §1.111

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REMARKS

For convenience in responding to the Office Action of October 26, 2009, headings used in the Action are used below.

Claim Rejections - 35 USC § 112

Claims 1, 3-9, 14-21, and 24-29 are rejected under 35 U.S.C. § 112, second paragraph. The Office asserts that the claims are indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More particularly, the Office is taking the position that the scope of the terminology "raw materials" is unclear. The Office states in the Action that "[i]t is unclear what part of the process the 'raw materials' refers to."

To overcome this rejection, applicants have amended claims 1, 4, 5 and 12 to recite that the raw materials are those used to formulate the lithium transition metal complex oxide "by heat treatment". Such compounds include, for example, LiOH and a coprecipitated hydroxide as used in Example 4 of the present application, and do not include elements such as metallic lithium, manganese, nickel, and the like which are not used, per se, to formulate a lithium transition metal complex oxide "by heat treatment".

Applicants respectfully submit that a person of ordinary skill

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in the art would understand the scope of compounds or materials included within the scope of "raw materials used to formulate said lithium transition metal complex oxide by heat treatment" as now recited in the claims. Nothing more is required under the second paragraph of 35 U.S.C. § 112.

Claim Rejections - 35 USC § 103

The Office has withdrawn the 35 U.S.C. § 103(a) rejections of the claims over Kazuhara (JP 2002-10037) in view of Yamaura (JP 08-213014) and Goto (U.S. Patent No. 6,444,351), that were made in the Final Action of May 14, 2009. The Office has maintained the 35 U.S.C. § 103(a) rejection of claims 1, 3-9, 14-21, and 24-29 under 35 U.S.C. § 103(a) as being unpatentable over Kazuhara in view of Nishida (EP 1246279), and the rejection of claim 3 under 35 U.S.C. § 103(a) as being unpatentable over Kazuhara in view of Nishida and further in view of Goto that were made in the Final Action.

Kazuhara is identified in the Actions as disclosing a nonaqueous electrolyte secondary battery containing each of the limitations of the rejected claims including a mixture of a lithium transition metal complex oxide containing Ni and Mn as transition metals and having a layered structure and lithium cobaltate as the positive electrode material, except, however, that the lithium transition metal complex oxide of Kazuhara does not contain

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fluorine. Nishida is identified in the Actions as teaching applying fluorination treatment to a lithium transition metal oxide composite and as teaching fluorinating the raw materials of the composite.

The position of the Office is that it would have been obvious, based on the teachings of Nishida, to fluorinate the positive active material of Kazuhara.

In response to the rejections in the Final Office Action applicants argued in the submission under 37 C.F.R. § 1.114 filed with the RCE of this application on August 6, 2009, that Nishida discloses only halogenation of lithium containing cobalt composite oxide, not lithium-nickel-manganese complex oxide, and that, therefore, if the teachings of Nishida are applied to the positive active material of Kazuhara, lithium-cobalt complex oxide is halogenated, while lithium-nickel-manganese complex oxide is not halogenated.

The Office has not properly understood this argument. Applicants intended that a person of ordinary skill in the art would, at best, apply the halogenation treatment of Nishida to only the lithium-cobalt complex oxide of the mixture Kazuhara - not to the entirety of the mixture. The Office appears to have understood applicants to be arguing that if the mixture of lithium-cobalt

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complex oxide and lithium-nickel-manganese complex oxide of Kazuhara is subjected to a halogenation treatment, only the lithium-cobalt complex oxide would be halogenated.

Applicants again respectfully submit that a person of ordinary skill in the art would not have halogenated the mixture of lithium-cobalt complex oxide and lithium-nickel-manganese complex oxide of Kazuhara, but, at best, would have halogenated only the lithium-cobalt complex oxide of Kazuhara. Nishida teaches away from halogenating the lithium-nickel-manganese complex oxide of Kazuhara.

This argument is supported by the data and descriptions in Nishida, for example, relating to the positive electrode active material x1 prepared in Comparative Example 5 of Nishida. The positive electrode active material x1 prepared in Comparative Example 5 of Nishida is described as spinel type lithium manganese oxide having a part of manganese substituted for chromium and is distinguished from the lithium containing cobalt oxide of the invention of Nishida having a halogen compound added thereto.

Paragraph [0075] of Nishida, which discusses the results of the use of the positive electrode active material x1 prepared in Comparative Example 5 of Nishida (referring to the data of Fig. 3 of Nishida), describes that "the spinel type lithium manganese

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oxide and the lithium cobalt oxide have different effects of containing the fluorine."

Paragraph [0087] of Nishida describes that "it is clear that the spinel type lithium manganese oxide and the lithium cobalt oxide have different effects from each other and the capacity retention rate cannot be enhanced even if the spinel type lithium manganese oxide contains fluorine."

In light of the teachings, a person of ordinary skill in the art would have had no reason to add fluorine to the lithium-nickel-manganese complex oxide of Kazuhara.

Accordingly, the combination of Kazuhara and Nishida is insufficient to support a prima facie case of obviousness of claims 1, 3-9, 14-21, and 24-29 of the present application under 35 U.S.C. § 103(a). The rejection is improper and removal of the rejection is in order.

The 35 U.S.C. § 103(a) rejection of claim 3 depends on the sufficiency of the combination of Kazuhara and Nishida to support a prima facie case of obviousness of claim 1, on which claim 3 depends, under 35 U.S.C. § 103(a). Since Kazuhara and Nishida do not support the rejection of claim 1 under 35 U.S.C. § 103(a), the rejection of claim 3 is also not proper and removal of the rejection is also in order.

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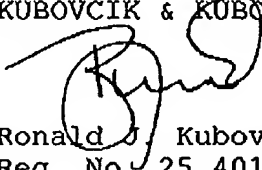
The foregoing is believed to be a complete and proper response to the Office Action dated October 26, 2009.

In the event that this paper is not considered to be timely filed, applicants hereby petition for an appropriate extension of time. The fee for any such extension may be charged to Deposit Account No. 111833.

In the event any additional fees are required, please also charge Deposit Account No. 111833.

Respectfully submitted,

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